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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Tore Toennesen

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EXAMINER

BYTHROW, PETER M

ART UNIT

PAPER NUMBER

3662

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,664	Applicant(s) TOENNESEN ET AL.	
	Examiner Peter M. Bythrow	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman (US 5008678) in view of Pleva et al. (US 2002/0163478) and further in view of Sasaki et al. (US 5815112).

As to Claim 11, Herman discloses a control device (figure 1 elements 50, 54, 62, 64) and a radar sensor to monitor an area surrounding the motor vehicle without the presence of another radar sensor monitoring the same area (figure 5), the sensor configured to monitor traffic in a lane adjacent to the motor vehicle (figure 5), the radar sensor including a phase- controlled antenna (column 3 lines 49-60) and the control device configured to set a plurality of radar lobes (column 3 lines 61-69).

Herman does not explicitly disclose the plural radar lobes having different geometries. However, the generation of plural radar lobes having different geometries is well known in the art. For example, Pleva discloses a phase controlled antenna configured to set a plurality of radar lobes having differing geometries (page 1 paragraph [0011] and figures 7A, 8, 8A). It would have been obvious to modify Herman such that the plural radar lobes had differing geometries, as taught by Pleva, as it would cause no new or unexpected results.

Herman does not disclose the control device analyzing propagation times and frequencies to determine direction from which the echo was received and distinguish which one of the plurality of radar lobes the echo originated from. Pleva discloses a phase controlled antenna configured to set a plurality of radar lobes having differing geometries (page 1 paragraph [0011] and figures 7A, 8, 8A), which analyzes propagation times and frequencies to determine direction from which the echo was received and distinguish which one of the plurality of radar lobes the echo originated from (paragraphs [0033], [0038], [0099], [0100]).

Herman in view of Pleva does not disclose analyzing the phases of a radar echo to determine direction from which the echo was received and distinguish which one of the plurality of radar lobes the echo originated from. However, the analysis of phase to determine direction and distinguish which one of the plurality of radar lobes the echo originated from is well known in the art. For example, Sasaki discloses a radar system for a motor vehicle which generates plural radar lobes and analyzes phase to determine a bearing and distinguish from which radar lobe the echo originated from in the manner of a mono-pulse beam switching radar (column 3 lines 17-36). It would have been obvious to modify Herman in view of Pleva such that the system analyzed the phases of a radar echo to determine direction from which the echo was received and distinguished which one of the plurality of radar lobes the echo originated from, as taught by Sasaki, as it would cause no new or unexpected results.

As to Claim 12, Pleva discloses the control device configured to generate at least two radar lobes having different directions of emission simultaneously (page 4

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paragraph [0048]). It would have been obvious to modify Herman such that the radar device generated at least two radar lobes having different directions of emission simultaneously, as taught by Pleva, in order to monitor two areas simultaneously.

As to Claim 13, Pleva discloses the radar lobes being of different sizes (page 5 paragraph [0067]). It would have been obvious to modify Herman such that the radar lobes were of different sizes, as taught by Pleva, as it would cause no new or unexpected results.

As to Claim 14, Herman discloses a radar system for a vehicle (abstract), including a phase controlled antenna (column 3 lines 49-60), for transmitting at least two radar lobes, wherein a larger one of the two radar lobes is oriented obliquely toward a rear and side with respect to a longitudinal direction of the motor vehicle, and a smaller one of two radar lobes is oriented to the side with respect to the longitudinal direction of the motor vehicle (column 5 lines 29-54 and figures 4 and 5).

As to Claim 15, Herman discloses a radar system for a vehicle (abstract), including a phase controlled antenna (column 3 lines 49-60), for transmitting at least two radar lobes of approximately the same size (figures 4 and 5), wherein one of the radar lobes is oriented toward approximately a rear with respect to a longitudinal direction of the motor vehicle and the other one of the radar lobes is oriented obliquely toward the rear and to a side of the motor vehicle (column 5 lines 29-54 and figures 4 and 5).

As to Claims 16 and 17, Herman discloses the control device being configured to generate different configurations of radar lobes in succession over time, wherein a configuration of a radar lobes generated at a first instant is rotated by a specified angle

relative to a configuration of radar lobes generated at another instant by scanning the radar lobes (column 5 lines 18-54).

As to Claim 18, Pleva discloses the configuration of radar lobes differing with regard to the number of separate lobes as a result of combining two separate beams (page 4 paragraph [0048] and figure 7A element 124A). It would have been obvious to modify Herman such that the configuration of radar lobes differed with regard to the number of separate lobes as a result of combining two separate beams, as it would cause no new or unexpected results.

As to Claim 19, Pleva discloses the control device being configured to generate a configuration having two radar lobes and a configuration having only one radar lobe, the one radar lobe being located approximately on a bisector of the two radar lobes of the other configuration (page 4 paragraph [0048] and figure 7A element 124A). Pleva does not explicitly teach the two configurations being generated alternately, however it would have been obvious to try, as it would cause no new or unexpected results.

3. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herman (US 5008678) in view of Pleva et al. (US 2002/0163478) and further in view of Sasaki et al. (US 5815112) as applied to claim 11 above, and further in view of Yamada (US 5793325).

As to Claim 20, Yamada discloses a radar system for a motor vehicle, wherein a control device is configured to vary a direction of emission of the radar lobes as a function of curvature of a road (column 5 lines 26-54). It would have been obvious to

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modify Herman in view of Pleva in view of Sasaki, such that the control device were configured to vary a direction of emission of the radar lobes as a function of curvature of a road, as taught by Yamada, in order to detect a preceding vehicle even as the vehicle entered a curved portion of roadway.

Response to Arguments

4. Applicant's arguments with respect to claims 11-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter M. Bythrow whose telephone number is (571)270-1468. The examiner can normally be reached on Mon-Fri, 8AM-5:30PM, Alt Fri, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Peter M. Bythrow
Examiner, Art Unit 3662

/Thomas H. Tarcza/
Supervisory Patent Examiner, Art Unit 3662